IRRIGATION

IRRIGATION IN THE WEST.

No consideration of irrigation can be complete without a thorough understanding of the conditions that prevail in the western part of the United States at the present time and of the big changes which have taken place throughout this enormous portion of the country in the last few years. From being an aggregation of frontier settlements, the West has surely and rapidly changed its character until today we find in all habitable portions a density of population often equaling that of the East and an awakening to a manufacturing and commercial life, the vigor and vitality of which has never been equaled in the history of the world.

As the greatest single fundamental reason for the development of the new spirit of the West we turn to irrigation and find in it the thorough explanation of this new activity. Only a few years ago our maps contained such statements as "Unexplored Territory," "Great American Desert," etc. Here today are found productive farms, thriving cities and a population

rich in all the luxuries of the eastern suburban districts. With the exception of a small strip of land along the Pacific coast, practically all the country west of the Missouri river has a rainfall of less than 20 inches, most of it less than to inches, which is far insufficient for the production of farm crops. While this amount of moisture may in some cases be sufficient to supply sage brush and other arid vegetation, until recent years it has failed utterly to furnish food for the growing multitude depending upon it, and with the enormous increase of population which has recently taken place in the mining districts and manufacturing centers of the West has come an insistent call for a larger production of food stuffs which has resulted in wide attention being given to the subject of irrigation. It may be surprising to many Eastern minds to know that the number of inhabitant per square mile of actually farmed territory in the "inter-mountain country" will exceed similar statistics for Illinois and other Eastern States, for while Illinois, as an example, is probably farmed to 90 per cent of its area,

it must be remembered that a State like Utah contains only 71/2 per cent of flat land which is possible of agriculture and of that amount only slightly over half is at present under cultivation owing to the limitations imposed by the amount of water flowing in the streams. Even the more mountainous portions of the State are today producing mineral wealth and supporting a population which depends upon this small proportion of farm land for its very existence. Brigham Young once said, "If you dig for gold, a few of you will get rich; if you raise vegetables, fruit and live stock and feed the miners, you will all grow rich. Miners camp out, but you will own homes." The high prices that prevail for all kinds of farm products throughout the West are due to the large mining population which must be fed and it should be noted that these prices are not transient, high today and low tomorrow, but are based on a permanent condition of affairs, based on a population which is steadily increasing its demand, and based on an available farm acreage which cannot increase beyond a certain limit which is nearly reached today. Throughout the East for many years, irrigation implied a

hardship, its necessity a misfortune, but today a questioning feeling has arisen and a doubt is being fostered regarding the truth of these views.

As a matter of fact, the very necessity for irrigation implies a favorable combination of circumstances. It means a climate that is necessarily warm and dry with absence of sudden changes of temperature. The irrigation districts of the West are peopled by farmers who came from Eastern districts and who have had experience with both natural rainfall and irrigation and it is impossible to find among them a single one who would exchange certain sure water supply and continuous sunshine for the former uncertain condition of natural rainfall.

Fundamental Conditions.

In any irrigation district there are four fundamental conditions which must be found complete in all details to secure financial success. Rich, deep soil; suitable and agreeable climate; safe and abundant water supply, and favorable markets. Also there should be considered general conditions of comfort, convenience, ease, and pleasure of life.

The farm soil of all Western dis-

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